```
* * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 13:39:06 ON 07 MAY 2008

=> fil .bec
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
      ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 13:39:21 ON 07 MAY 2008
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s cysk or cysteine synthase#
FILE 'MEDLINE'
            82 CYSK
         73445 CYSTEINE
        107612 SYNTHASE#
           269 CYSTEINE SYNTHASE#
                 (CYSTEINE(W)SYNTHASE#)
L1         309 CYSK OR CYSTEINE SYNTHASE#

FILE 'SCISEARCH'
            58 CYSK
         55567 CYSTEINE
        129731 SYNTHASE#
           242 CYSTEINE SYNTHASE#
                 (CYSTEINE(W)SYNTHASE#)
L2         280 CYSK OR CYSTEINE SYNTHASE#

FILE 'LIFESCI'
            53 CYSK
         21199 "CYSTEINE"
         29544 SYNTHASE#
           109 CYSTEINE SYNTHASE#
                 ("CYSTEINE"(W)SYNTHASE#)
L3         146 CYSK OR CYSTEINE SYNTHASE#

FILE 'BIOTECHDS'
            58 CYSK
          5098 CYSTEINE
          7240 SYNTHASE#
            70 CYSTEINE SYNTHASE#
                 (CYSTEINE(W)SYNTHASE#)
L4          95 CYSK OR CYSTEINE SYNTHASE#

FILE 'BIOSIS'
            82 CYSK
         72786 CYSTEINE
        118475 SYNTHASE#
           275 CYSTEINE SYNTHASE#
                 (CYSTEINE(W)SYNTHASE#)
L5         335 CYSK OR CYSTEINE SYNTHASE#

FILE 'EMBASE'
            65 CYSK
         57869 "CYSTEINE"
        108341 SYNTHASE#
           233 CYSTEINE SYNTHASE#
                 ("CYSTEINE"(W)SYNTHASE#)
```

```
L6          266 CYSK OR CYSTEINE SYNTHASE#

FILE 'HCAPLUS'
            207 CYSK
         113054 CYSTEINE
         114637 SYNTHASE#
            426 CYSTEINE SYNTHASE#
                  (CYSTEINE(W)SYNTHASE#)
L7          537 CYSK OR CYSTEINE SYNTHASE#

FILE 'NTIS'
              0 CYSK
            521 CYSTEINE
            294 SYNTHASE#
              0 CYSTEINE SYNTHASE#
                  (CYSTEINE(W)SYNTHASE#)
L8            0 CYSK OR CYSTEINE SYNTHASE#

FILE 'ESBIOBASE'
             46 CYSK
          28558 CYSTEINE
          54244 SYNTHASE#
            124 CYSTEINE SYNTHASE#
                  (CYSTEINE(W)SYNTHASE#)
L9          154 CYSK OR CYSTEINE SYNTHASE#

FILE 'BIOTECHNO'
             43 CYSK
          22339 CYSTEINE
          29457 SYNTHASE#
            130 CYSTEINE SYNTHASE#
                  (CYSTEINE(W)SYNTHASE#)
L10         151 CYSK OR CYSTEINE SYNTHASE#

FILE 'WPIDS'
             52 CYSK
          11722 CYSTEINE
           6793 SYNTHASE#
             51 CYSTEINE SYNTHASE#
                  (CYSTEINE(W)SYNTHASE#)
L11          72 CYSK OR CYSTEINE SYNTHASE#

TOTAL FOR ALL FILES
L12        2345 CYSK OR CYSTEINE SYNTHASE#

=> s (serine or ser)(15a)(rich or high or level# or yield# or optimiz?)
FILE 'MEDLINE'
         104476 SERINE
          24227 SER
          97298 RICH
        1628405 HIGH
        1728866 LEVEL#
         148032 YIELD#
          86595 OPTIMIZ?
L13        6126 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
                ?)

FILE 'SCISEARCH'
          60386 SERINE
          25468 SER
         182902 RICH
        2495375 HIGH
```

```
      1857333 LEVEL#
       469670 YIELD#
       296759 OPTIMIZ?
L14       5582 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'LIFESCI'
        25076 SERINE
        12695 SER
        42324 RICH
       452482 HIGH
       519831 LEVEL#
        64869 YIELD#
        23816 OPTIMIZ?
L15      3464 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'BIOTECHDS'
         5782 SERINE
         5928 SER
         5272 RICH
        85899 HIGH
        60173 LEVEL#
        43309 YIELD#
        21488 OPTIMIZ?
L16       708 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'BIOSIS'
        82532 SERINE
        26259 SER
       134104 RICH
      1833264 HIGH
      1945774 LEVEL#
       380018 YIELD#
        85361 OPTIMIZ?
L17      7142 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'EMBASE'
        67554 SERINE
        24058 SER
        86612 RICH
      1556063 HIGH
      1965291 LEVEL#
       157476 YIELD#
        82286 OPTIMIZ?
L18      5467 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'HCAPLUS'
       119700 SERINE
        38596 SER
       315641 RICH
      4313341 HIGH
      2553316 LEVEL#
      1269022 YIELD#
       360435 OPTIMIZ?
L19     10355 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'NTIS'
```

```
          578 SERINE
          438 SER
         9733 RICH
       340332 HIGH
       238143 LEVEL#
        56808 YIELD#
        62468 OPTIMIZ?
L20        81 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'ESBIOBASE'
        32396 SERINE
        14901 SER
        56532 RICH
       641710 HIGH
       717809 LEVEL#
        95471 YIELD#
        42201 OPTIMIZ?
L21      4374 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'BIOTECHNO'
        28989 SERINE
        11924 SER
        29372 RICH
       299126 HIGH
       367944 LEVEL#
        41645 YIELD#
        16086 OPTIMIZ?
L22      3241 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

FILE 'WPIDS'
        11087 SERINE
        13584 SER
        41223 RICH
      2375938 HIGH
       706149 LEVEL#
       314587 YIELD#
        61673 OPTIMIZ?
L23       705 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

TOTAL FOR ALL FILES
L24      47245 (SERINE OR SER)(15A)(RICH OR HIGH OR LEVEL# OR YIELD# OR OPTIMIZ
               ?)

=> s l12 and l24
FILE 'MEDLINE'
L25         13 L1 AND L13

FILE 'SCISEARCH'
L26          9 L2 AND L14

FILE 'LIFESCI'
L27          6 L3 AND L15

FILE 'BIOTECHDS'
L28          2 L4 AND L16

FILE 'BIOSIS'
L29          9 L5 AND L17
```

```
FILE 'EMBASE'
L30           6 L6 AND L18

FILE 'HCAPLUS'
L31          12 L7 AND L19

FILE 'NTIS'
L32           0 L8 AND L20

FILE 'ESBIOBASE'
L33           5 L9 AND L21

FILE 'BIOTECHNO'
L34           8 L10 AND L22

FILE 'WPIDS'
L35           1 L11 AND L23

TOTAL FOR ALL FILES
L36          71 L12 AND L24

=> s l12 and coexpress?
FILE 'MEDLINE'
         15797 COEXPRESS?
L37           2 L1 AND COEXPRESS?

FILE 'SCISEARCH'
         16293 COEXPRESS?
L38           2 L2 AND COEXPRESS?

FILE 'LIFESCI'
          7659 COEXPRESS?
L39           2 L3 AND COEXPRESS?

FILE 'BIOTECHDS'
           826 COEXPRESS?
L40           1 L4 AND COEXPRESS?

FILE 'BIOSIS'
         16063 COEXPRESS?
L41           2 L5 AND COEXPRESS?

FILE 'EMBASE'
         14913 COEXPRESS?
L42           1 L6 AND COEXPRESS?

FILE 'HCAPLUS'
         15129 COEXPRESS?
L43           2 L7 AND COEXPRESS?

FILE 'NTIS'
            39 COEXPRESS?
L44           0 L8 AND COEXPRESS?

FILE 'ESBIOBASE'
         11681 COEXPRESS?
L45           1 L9 AND COEXPRESS?

FILE 'BIOTECHNO'
          7587 COEXPRESS?
L46           1 L10 AND COEXPRESS?
```

```
FILE 'WPIDS'
          215 COEXPRESS?
L47         0 L11 AND COEXPRESS?

TOTAL FOR ALL FILES
L48        14 L12 AND COEXPRESS?

=> s (amino acid or ser or serine)(15a)(composition# or profil?)
FILE 'MEDLINE'
       679698 AMINO
      1545785 ACID
       512917 AMINO ACID
                (AMINO(W)ACID)
        24227 SER
       104476 SERINE
       189419 COMPOSITION#
       295830 PROFIL?
L49     14609 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'SCISEARCH'
       436194 AMINO
      1284495 ACID
       229538 AMINO ACID
                (AMINO(W)ACID)
        25468 SER
        60386 SERINE
       481688 COMPOSITION#
       450081 PROFIL?
L50     10441 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'LIFESCI'
       188499 "AMINO"
       346634 "ACID"
       128460 AMINO ACID
                ("AMINO"(W)"ACID")
        12695 SER
        25076 SERINE
       112277 COMPOSITION#
        70621 PROFIL?
L51      6520 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'BIOTECHDS'
        77138 AMINO
       156885 ACID
        56317 AMINO ACID
                (AMINO(W)ACID)
         5928 SER
         5782 SERINE
        48820 COMPOSITION#
        13472 PROFIL?
L52      3057 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'BIOSIS'
       607898 AMINO
      1529894 ACID
       351102 AMINO ACID
                (AMINO(W)ACID)
        26259 SER
        82532 SERINE
       399670 COMPOSITION#
       283754 PROFIL?
```

```
L53      25509 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'EMBASE'
       477055 "AMINO"
      1561386 "ACID"
       322430 AMINO ACID
                ("AMINO"(W)"ACID")
        24058 SER
        67554 SERINE
       169493 COMPOSITION#
       246818 PROFIL?
L54      13983 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'HCAPLUS'
      1167276 AMINO
      4574559 ACID
       588346 AMINO ACID
                (AMINO(W)ACID)
        38596 SER
       119700 SERINE
      1045977 COMPOSITION#
      1531580 COMPN
      2132732 COMPOSITION#
                (COMPOSITION# OR COMPN)
       510830 PROFIL?
L55      40071 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'NTIS'
         7322 AMINO
        45258 ACID
         2654 AMINO ACID
                (AMINO(W)ACID)
          438 SER
          578 SERINE
        72162 COMPOSITION#
        59406 PROFIL?
L56        237 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'ESBIOBASE'
       205248 AMINO
       402935 ACID
       113740 AMINO ACID
                (AMINO(W)ACID)
        14901 SER
        32396 SERINE
       104790 COMPOSITION#
       121152 PROFIL?
L57       4140 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'BIOTECHNO'
       204625 AMINO
       349810 ACID
       154660 AMINO ACID
                (AMINO(W)ACID)
        11924 SER
        28989 SERINE
        38895 COMPOSITION#
        42958 PROFIL?
L58       6366 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

FILE 'WPIDS'
       299450 AMINO
```

```
       1143063 ACID
         87042 AMINO ACID
                 (AMINO(W)ACID)
         13584 SER
         11087 SERINE
        845784 COMPOSITION#
          8849 COMPN
        398425 COMPSN
        114205 COMPSNS
       1029782 COMPOSITION#
                 (COMPOSITION# OR COMPN OR COMPSN OR COMPSNS)
        221069 PROFIL?
L59       5574 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

TOTAL FOR ALL FILES
L60     130507 (AMINO ACID OR SER OR SERINE)(15A)(COMPOSITION# OR PROFIL?)

=> s l12 and l60
FILE 'MEDLINE'
L61           8 L1 AND L49

FILE 'SCISEARCH'
L62           8 L2 AND L50

FILE 'LIFESCI'
L63           3 L3 AND L51

FILE 'BIOTECHDS'
L64           2 L4 AND L52

FILE 'BIOSIS'
L65          18 L5 AND L53

FILE 'EMBASE'
L66           8 L6 AND L54

FILE 'HCAPLUS'
L67          18 L7 AND L55

FILE 'NTIS'
L68           0 L8 AND L56

FILE 'ESBIOBASE'
L69           3 L9 AND L57

FILE 'BIOTECHNO'
L70           4 L10 AND L58

FILE 'WPIDS'
L71           2 L11 AND L59

TOTAL FOR ALL FILES
L72          74 L12 AND L60

=> s (heterologous or foreign or recombinant)(5a)protein#(10a)(produc? or express?
or optimiz?)
FILE 'MEDLINE'
         53007 HETEROLOGOUS
         65999 FOREIGN
        294716 RECOMBINANT
       2245712 PROTEIN#
       1479209 PRODUC?
```

```
      1189611 EXPRESS?
        86595 OPTIMIZ?
L73       11277 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
                ? OR EXPRESS? OR OPTIMIZ?)

FILE 'SCISEARCH'
        25505 HETEROLOGOUS
        35464 FOREIGN
       175583 RECOMBINANT
      1774394 PROTEIN#
      2135740 PRODUC?
      1526773 EXPRESS?
       296759 OPTIMIZ?
L74       11472 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
                ? OR EXPRESS? OR OPTIMIZ?)

FILE 'LIFESCI'
        16860 HETEROLOGOUS
         9728 FOREIGN
        78715 RECOMBINANT
       683363 PROTEIN#
       600691 PRODUC?
       488130 EXPRESS?
        23816 OPTIMIZ?
L75        8672 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
                ? OR EXPRESS? OR OPTIMIZ?)

FILE 'BIOTECHDS'
        12440 HETEROLOGOUS
         6925 FOREIGN
       110954 RECOMBINANT
       179354 PROTEIN#
       246622 PRODUC?
       166239 EXPRESS?
        21488 OPTIMIZ?
L76       31791 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
                ? OR EXPRESS? OR OPTIMIZ?)

FILE 'BIOSIS'
        35675 HETEROLOGOUS
        35956 FOREIGN
       213769 RECOMBINANT
      2115796 PROTEIN#
      2167262 PRODUC?
      1447830 EXPRESS?
        85361 OPTIMIZ?
L77       13912 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
                ? OR EXPRESS? OR OPTIMIZ?)

FILE 'EMBASE'
        24656 HETEROLOGOUS
        36978 FOREIGN
       196365 RECOMBINANT
      1841094 PROTEIN#
      1393403 PRODUC?
      1092766 EXPRESS?
        82286 OPTIMIZ?
L78        9173 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
                ? OR EXPRESS? OR OPTIMIZ?)

FILE 'HCAPLUS'
        35433 HETEROLOGOUS
```

```
         53583 FOREIGN
        215028 RECOMBINANT
       2507260 PROTEIN#
       4739035 PRODUC?
       1080289 PRODN
       5257422 PRODUC?
                 (PRODUC? OR PRODN)
       1446128 EXPRESS?
        360435 OPTIMIZ?
L79      26253 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
               ? OR EXPRESS? OR OPTIMIZ?)

FILE 'NTIS'
           358 HETEROLOGOUS
        390920 FOREIGN
          1887 RECOMBINANT
         20815 PROTEIN#
        383352 PRODUC?
         42085 EXPRESS?
         62468 OPTIMIZ?
L80        186 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
               ? OR EXPRESS? OR OPTIMIZ?)

FILE 'ESBIOBASE'
         15205 HETEROLOGOUS
         12571 FOREIGN
         98984 RECOMBINANT
        881143 PROTEIN#
        712812 PRODUC?
        696236 EXPRESS?
         42201 OPTIMIZ?
L81       9584 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
               ? OR EXPRESS? OR OPTIMIZ?)

FILE 'BIOTECHNO'
         14199 HETEROLOGOUS
          6070 FOREIGN
        125134 RECOMBINANT
        653195 PROTEIN#
        394590 PRODUC?
        452182 EXPRESS?
         16086 OPTIMIZ?
L82       8130 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
               ? OR EXPRESS? OR OPTIMIZ?)

FILE 'WPIDS'
         11979 HETEROLOGOUS
         52020 FOREIGN
         52731 RECOMBINANT
        195750 PROTEIN#
       2700178 PRODUC?
        159549 EXPRESS?
         61673 OPTIMIZ?
L83       6267 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A)PROTEIN#(10A)(PRODUC
               ? OR EXPRESS? OR OPTIMIZ?)

TOTAL FOR ALL FILES
L84     136717 (HETEROLOGOUS OR FOREIGN OR RECOMBINANT)(5A) PROTEIN#(10A)(PRODU
               C? OR EXPRESS? OR OPTIMIZ?)

=> s l12 and l84
FILE 'MEDLINE'
```

```
L85           5 L1 AND L73

FILE 'SCISEARCH'
L86           5 L2 AND L74

FILE 'LIFESCI'
L87           6 L3 AND L75

FILE 'BIOTECHDS'
L88           6 L4 AND L76

FILE 'BIOSIS'
L89           3 L5 AND L77

FILE 'EMBASE'
L90           2 L6 AND L78

FILE 'HCAPLUS'
L91           9 L7 AND L79

FILE 'NTIS'
L92           0 L8 AND L80

FILE 'ESBIOBASE'
L93           4 L9 AND L81

FILE 'BIOTECHNO'
L94           2 L10 AND L82

FILE 'WPIDS'
L95           2 L11 AND L83

TOTAL FOR ALL FILES
L96          44 L12 AND L84

=> s l60 and l84
FILE 'MEDLINE'
L97          56 L49 AND L73

FILE 'SCISEARCH'
L98          55 L50 AND L74

FILE 'LIFESCI'
L99          42 L51 AND L75

FILE 'BIOTECHDS'
L100        568 L52 AND L76

FILE 'BIOSIS'
L101         65 L53 AND L77

FILE 'EMBASE'
L102         70 L54 AND L78

FILE 'HCAPLUS'
L103        196 L55 AND L79

FILE 'NTIS'
L104          0 L56 AND L80

FILE 'ESBIOBASE'
L105         48 L57 AND L81
```

```
FILE 'BIOTECHNO'
L106        74 L58 AND L82

FILE 'WPIDS'
L107        61 L59 AND L83

TOTAL FOR ALL FILES
L108      1235 L60 AND L84

=> s l108 and coli
FILE 'MEDLINE'
        272003 COLI
L109        33 L97 AND COLI

FILE 'SCISEARCH'
        261958 COLI
L110        29 L98 AND COLI

FILE 'LIFESCI'
        111372 COLI
L111        24 L99 AND COLI

FILE 'BIOTECHDS'
         50744 COLI
L112       140 L100 AND COLI

FILE 'BIOSIS'
        328942 COLI
L113        32 L101 AND COLI

FILE 'EMBASE'
        195802 COLI
L114        38 L102 AND COLI

FILE 'HCAPLUS'
        299483 COLI
L115        75 L103 AND COLI

FILE 'NTIS'
          2962 COLI
L116         0 L104 AND COLI

FILE 'ESBIOBASE'
         82752 COLI
L117        20 L105 AND COLI

FILE 'BIOTECHNO'
         94549 COLI
L118        32 L106 AND COLI

FILE 'WPIDS'
         32693 COLI
L119        19 L107 AND COLI

TOTAL FOR ALL FILES
L120       442 L108 AND COLI

=> s (136 or 148 or 172 or 196 or 1120)
FILE 'MEDLINE'
L121        56 (L25 OR L37 OR L61 OR L85 OR L109)
```

```
FILE 'SCISEARCH'
L122        49 (L26 OR L38 OR L62 OR L86 OR L110)

FILE 'LIFESCI'
L123        37 (L27 OR L39 OR L63 OR L87 OR L111)

FILE 'BIOTECHDS'
L124       146 (L28 OR L40 OR L64 OR L88 OR L112)

FILE 'BIOSIS'
L125        60 (L29 OR L41 OR L65 OR L89 OR L113)

FILE 'EMBASE'
L126        50 (L30 OR L42 OR L66 OR L90 OR L114)

FILE 'HCAPLUS'
L127       111 (L31 OR L43 OR L67 OR L91 OR L115)

FILE 'NTIS'
L128         0 (L32 OR L44 OR L68 OR L92 OR L116)

FILE 'ESBIOBASE'
L129        29 (L33 OR L45 OR L69 OR L93 OR L117)

FILE 'BIOTECHNO'
L130        43 (L34 OR L46 OR L70 OR L94 OR L118)

FILE 'WPIDS'
L131        23 (L35 OR L47 OR L71 OR L95 OR L119)

TOTAL FOR ALL FILES
L132       604 (L36 OR L48 OR L72 OR L96 OR L120)

=> s l132 not 2004-2008/py
FILE 'MEDLINE'
       2828837 2004-2008/PY
                 (20040000-20089999/PY)
L133        44 L121 NOT 2004-2008/PY

FILE 'SCISEARCH'
       5257377 2004-2008/PY
                 (20040000-20089999/PY)
L134        35 L122 NOT 2004-2008/PY

FILE 'LIFESCI'
        610068 2004-2008/PY
L135        26 L123 NOT 2004-2008/PY

FILE 'BIOTECHDS'
        110412 2004-2008/PY
L136        79 L124 NOT 2004-2008/PY

FILE 'BIOSIS'
       2438788 2004-2008/PY
L137        50 L125 NOT 2004-2008/PY

FILE 'EMBASE'
       2465331 2004-2008/PY
L138        33 L126 NOT 2004-2008/PY

FILE 'HCAPLUS'
       5685072 2004-2008/PY
```

```
L139        75 L127 NOT 2004-2008/PY

FILE 'NTIS'
        68767 2004-2008/PY
L140         0 L128 NOT 2004-2008/PY

FILE 'ESBIOBASE'
      1416926 2004-2008/PY
L141        18 L129 NOT 2004-2008/PY

FILE 'BIOTECHNO'
          586 2004-2008/PY
L142        43 L130 NOT 2004-2008/PY

FILE 'WPIDS'
      4801415 2004-2008/PY
L143         4 L131 NOT 2004-2008/PY

TOTAL FOR ALL FILES
L144       407 L132 NOT 2004-2008/PY

=> dup rem l144
PROCESSING COMPLETED FOR L144
L145       201 DUP REM L144 (206 DUPLICATES REMOVED)

=> s leptin
FILE 'MEDLINE'
L146     13799 LEPTIN

FILE 'SCISEARCH'
L147     18045 LEPTIN

FILE 'LIFESCI'
L148      1942 LEPTIN

FILE 'BIOTECHDS'
L149       365 LEPTIN

FILE 'BIOSIS'
L150     16507 LEPTIN

FILE 'EMBASE'
L151     14251 LEPTIN

FILE 'HCAPLUS'
L152     15687 LEPTIN

FILE 'NTIS'
L153        22 LEPTIN

FILE 'ESBIOBASE'
L154      8624 LEPTIN

FILE 'BIOTECHNO'
L155      2512 LEPTIN

FILE 'WPIDS'
L156       977 LEPTIN

TOTAL FOR ALL FILES
L157     92731 LEPTIN
```

```
=> s l157(10a)(ser or serine)
FILE 'MEDLINE'
        24227 SER
       104476 SERINE
L158        12 L146(10A)(SER OR SERINE)

FILE 'SCISEARCH'
        25468 SER
        60386 SERINE
L159        15 L147(10A)(SER OR SERINE)

FILE 'LIFESCI'
        12695 SER
        25076 SERINE
L160         3 L148(10A)(SER OR SERINE)

FILE 'BIOTECHDS'
         5928 SER
         5782 SERINE
L161         5 L149(10A)(SER OR SERINE)

FILE 'BIOSIS'
        26259 SER
        82532 SERINE
L162        12 L150(10A)(SER OR SERINE)

FILE 'EMBASE'
        24058 SER
        67554 SERINE
L163        14 L151(10A)(SER OR SERINE)

FILE 'HCAPLUS'
        38596 SER
       119700 SERINE
L164        17 L152(10A)(SER OR SERINE)

FILE 'NTIS'
          438 SER
          578 SERINE
L165         0 L153(10A)(SER OR SERINE)

FILE 'ESBIOBASE'
        14901 SER
        32396 SERINE
L166        14 L154(10A)(SER OR SERINE)

FILE 'BIOTECHNO'
        11924 SER
        28989 SERINE
L167         4 L155(10A)(SER OR SERINE)

FILE 'WPIDS'
        13584 SER
        11087 SERINE
L168         5 L156(10A)(SER OR SERINE)

TOTAL FOR ALL FILES
L169       101 L157(10A)(SER OR SERINE)

=> s l157 and ((ser or serine)(8a)(rich or level#) or (amino acid)(2a)composition)
FILE 'MEDLINE'
        24227 SER
```

```
       104476 SERINE
        97298 RICH
      1728866 LEVEL#
         3591 (SER OR SERINE)(8A)(RICH OR LEVEL#)
       679698 AMINO
      1545785 ACID
       512917 AMINO ACID
                (AMINO(W)ACID)
       179800 COMPOSITION
        10381 (AMINO ACID)(2A)COMPOSITION
L170        8 L146 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'SCISEARCH'
        25468 SER
        60386 SERINE
       182902 RICH
      1857333 LEVEL#
         3200 (SER OR SERINE)(8A)(RICH OR LEVEL#)
       436194 AMINO
      1284495 ACID
       229538 AMINO ACID
                (AMINO(W)ACID)
       433876 COMPOSITION
         7145 (AMINO ACID)(2A)COMPOSITION
L171        7 L147 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'LIFESCI'
        12695 SER
        25076 SERINE
        42324 RICH
       519831 LEVEL#
         1902 (SER OR SERINE)(8A)(RICH OR LEVEL#)
       188499 "AMINO"
       346634 "ACID"
       128460 AMINO ACID
                ("AMINO"(W)"ACID")
       107815 COMPOSITION
         4806 (AMINO ACID)(2A)COMPOSITION
L172        1 L148 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'BIOTECHDS'
         5928 SER
         5782 SERINE
         5272 RICH
        60173 LEVEL#
          246 (SER OR SERINE)(8A)(RICH OR LEVEL#)
        77138 AMINO
       156885 ACID
        56317 AMINO ACID
                (AMINO(W)ACID)
        43596 COMPOSITION
          882 (AMINO ACID)(2A)COMPOSITION
L173        3 L149 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'BIOSIS'
        26259 SER
        82532 SERINE
       134104 RICH
```

```
      1945774 LEVEL#
         3980 (SER OR SERINE)(8A)(RICH OR LEVEL#)
       607898 AMINO
      1529894 ACID
       351102 AMINO ACID
                (AMINO(W)ACID)
       364911 COMPOSITION
        19281 (AMINO ACID)(2A)COMPOSITION
L174        6 L150 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'EMBASE'
        24058 SER
        67554 SERINE
        86612 RICH
      1965291 LEVEL#
         3169 (SER OR SERINE)(8A)(RICH OR LEVEL#)
       477055 "AMINO"
      1561386 "ACID"
       322430 AMINO ACID
                ("AMINO"(W)"ACID")
       162494 COMPOSITION
        11083 (AMINO ACID)(2A)COMPOSITION
L175       10 L151 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'HCAPLUS'
        38596 SER
       119700 SERINE
       315641 RICH
      2553316 LEVEL#
         4948 (SER OR SERINE)(8A)(RICH OR LEVEL#)
      1167276 AMINO
      4574559 ACID
       588346 AMINO ACID
                (AMINO(W)ACID)
       723003 COMPOSITION
      1531580 COMPN
      1961864 COMPOSITION
                (COMPOSITION OR COMPN)
        29911 (AMINO ACID)(2A)COMPOSITION
L176       26 L152 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'NTIS'
          438 SER
          578 SERINE
         9733 RICH
       238143 LEVEL#
           26 (SER OR SERINE)(8A)(RICH OR LEVEL#)
         7322 AMINO
        45258 ACID
         2654 AMINO ACID
                (AMINO(W)ACID)
        64397 COMPOSITION
          169 (AMINO ACID)(2A)COMPOSITION
L177        0 L153 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
              )COMPOSITION)

FILE 'ESBIOBASE'
        14901 SER
        32396 SERINE
```

```
         56532 RICH
        717809 LEVEL#
          2352 (SER OR SERINE)(8A)(RICH OR LEVEL#)
        205248 AMINO
        402935 ACID
        113740 AMINO ACID
                 (AMINO(W)ACID)
         99818 COMPOSITION
          2421 (AMINO ACID)(2A)COMPOSITION
L178         6 L154 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
               )COMPOSITION)

FILE 'BIOTECHNO'
         11924 SER
         28989 SERINE
         29372 RICH
        367944 LEVEL#
          1708 (SER OR SERINE)(8A)(RICH OR LEVEL#)
        204625 AMINO
        349810 ACID
        154660 AMINO ACID
                 (AMINO(W)ACID)
         36875 COMPOSITION
          5058 (AMINO ACID)(2A)COMPOSITION
L179         3 L155 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
               )COMPOSITION)

FILE 'WPIDS'
         13584 SER
         11087 SERINE
         41223 RICH
        706149 LEVEL#
           206 (SER OR SERINE)(8A)(RICH OR LEVEL#)
        299450 AMINO
       1143063 ACID
         87042 AMINO ACID
                 (AMINO(W)ACID)
        820929 COMPOSITION
          8849 COMPN
        398425 COMPSN
        979566 COMPOSITION
                 (COMPOSITION OR COMPN OR COMPSN)
          1210 (AMINO ACID)(2A)COMPOSITION
L180         3 L156 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
               )COMPOSITION)

TOTAL FOR ALL FILES
L181        73 L157 AND ((SER OR SERINE)(8A)(RICH OR LEVEL#) OR (AMINO ACID)(2A
               ) COMPOSITION)

=> s (l169 or l181) not 2004-2008/py
FILE 'MEDLINE'
       2828837 2004-2008/PY
                 (20040000-20089999/PY)
L182         6 (L158 OR L170) NOT 2004-2008/PY

FILE 'SCISEARCH'
       5257377 2004-2008/PY
                 (20040000-20089999/PY)
L183         9 (L159 OR L171) NOT 2004-2008/PY

FILE 'LIFESCI'
```

```
       610068 2004-2008/PY
L184        2 (L160 OR L172) NOT 2004-2008/PY

FILE 'BIOTECHDS'
       110412 2004-2008/PY
L185        1 (L161 OR L173) NOT 2004-2008/PY

FILE 'BIOSIS'
      2438788 2004-2008/PY
L186        6 (L162 OR L174) NOT 2004-2008/PY

FILE 'EMBASE'
      2465331 2004-2008/PY
L187       10 (L163 OR L175) NOT 2004-2008/PY

FILE 'HCAPLUS'
      5685072 2004-2008/PY
L188        8 (L164 OR L176) NOT 2004-2008/PY

FILE 'NTIS'
        68767 2004-2008/PY
L189        0 (L165 OR L177) NOT 2004-2008/PY

FILE 'ESBIOBASE'
      1416926 2004-2008/PY
L190        7 (L166 OR L178) NOT 2004-2008/PY

FILE 'BIOTECHNO'
          586 2004-2008/PY
L191        6 (L167 OR L179) NOT 2004-2008/PY

FILE 'WPIDS'
      4801415 2004-2008/PY
L192        0 (L168 OR L180) NOT 2004-2008/PY

TOTAL FOR ALL FILES
L193       55 (L169 OR L181) NOT 2004-2008/PY

=> dup rem l193
PROCESSING COMPLETED FOR L193
L194       14 DUP REM L193 (41 DUPLICATES REMOVED)

=> d tot

L194 ANSWER 1 OF 14     MEDLINE on STN                  DUPLICATE 1
TI   Engineering Escherichia coli for increased productivity of serine
     -rich proteins based on proteome profiling.
SO   Applied and environmental microbiology, (2003 Oct) Vol. 69, No. 10, pp.
     5772-81.
     Journal code: 7605801. ISSN: 0099-2240.
AU   Han Mee-Jung; Jeong Ki Jun; Yoo Jong-Shin; Lee Sang Yup
AN   2003497591     MEDLINE

L194 ANSWER 2 OF 14     MEDLINE on STN                  DUPLICATE 2
TI   Insulin resistance and lipodystrophy in mice lacking ribosomal S6 kinase
     2.
SO   Diabetes, (2003 Jun) Vol. 52, No. 6, pp. 1340-6.
     Journal code: 0372763. ISSN: 0012-1797.
AU   El-Haschimi Karim; Dufresne Scott D; Hirshman Michael F; Flier Jeffrey S;
     Goodyear Laurie J; Bjorbaek Christian
AN   2003292836     MEDLINE
```

L194 ANSWER 3 OF 14 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on STN DUPLICATE 3
TI Cooperation between insulin and leptin in the modulation of vascular tone
SO HYPERTENSION, (AUG 2003) Vol. 42, No. 2, pp. 166-170.
ISSN: 0194-911X.
AU Vecchione C; Aretini A; Maffei A; Marino G; Selvetella G; Poulet R; Trimarco V; Frati G; Lembo G (Reprint)
AN 2003:672025 SCISEARCH

L194 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Acute and chronic leptin treatment mediate contrasting effects on signaling, glucose uptake, and GLUT4 translocation in L6-GLUT4myc myotubes
SO Journal of Cellular Physiology (2003), 197(1), 122-130
CODEN: JCLLAX; ISSN: 0021-9541
AU Tajmir, Panteha; Kwan, Jamie Jun-Mae; Kessas, Mona; Mozammel, Shehzin; Sweeney, Gary
AN 2003:713728 HCAPLUS
DN 140:1133

L194 ANSWER 5 OF 14 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
TI LEPTIN ENHANCES PDGF-DEPENDENT CELL GROWTH IN HEPATIC STELLATE CELLS: INVOLVEMENT OF THE PI3K-AKT PATHWAY. .
SO Digestive Disease Week Abstracts and Itinerary Planner, (2003) Vol. 2003, pp. Abstract No. 254. e-file.
Meeting Info.: Digestive Disease 2003. FL, Orlando, USA. May 17-22, 2003. American Association for the Study of Liver Diseases; American Gastroenterological Association; American Society for Gastrointestinal Endoscopy; Society for Surgery of the Alimentary Tract.
AU Ikejima, Kenichi [Reprint Author]; Lang, Tie [Reprint Author]; Yoshikawa, Mutsuko [Reprint Author]; Hirose, Miyoko [Reprint Author]; Kitamura, Tsuneo [Reprint Author]; Takei, Yoshiyuki [Reprint Author]; Sato, Nobuhiro [Reprint Author]
AN 2004:26045 BIOSIS

L194 ANSWER 6 OF 14 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on STN DUPLICATE 4
TI Biphasic regulation of extracellular-signal-regulated protein kinase by leptin in macrophages: role in regulating STAT3 Ser(727) phosphorylation and DNA binding
SO BIOCHEMICAL JOURNAL, (15 JUN 2002) Vol. 364, Part 3, pp. 875-879.
ISSN: 0264-6021.
AU O'Rourke L; Shepherd P R (Reprint)
AN 2002:544834 SCISEARCH

L194 ANSWER 7 OF 14 EMBASE COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on STN
TI Ghrelin, an orexigenic signaling molecule from the gastrointestinal tract.
SO Current Opinion in Pharmacology, (1 Dec 2002) Vol. 2, No. 6, pp. 665-668.
Refs: 50
ISSN: 1471-4892 CODEN: COPUBK
AU Kojima, Masayasu (correspondence)
CS Molecular Genetics, Institute of Life Science, Kurume University, Kurume, Fukuoka 839-0861, Japan. mkojima@lsi.kurume-u.ac.jp
AU Kangawa, Kenji
CS Department of Biochemistry, National Cardiovascular Center, Research Institute, Fujishirodai, Suita, Osaka 565-8565, Japan.
AN 2002460419 EMBASE

L194 ANSWER 8 OF 14 MEDLINE on STN DUPLICATE 5
TI Leptin effect on endothelial nitric oxide is mediated through Akt-endothelial nitric oxide synthase phosphorylation pathway.
SO Diabetes, (2002 Jan) Vol. 51, No. 1, pp. 168-73.

Journal code: 0372763. ISSN: 0012-1797.
AU Vecchione Carmine; Maffei Angelo; Colella Salvatore; Aretini Alessandra; Poulet Roberta; Frati Giacomo; Gentile Maria Teresa; Fratta Luigi; Trimarco Valentina; Trimarco Bruno; Lembo Giuseppe
AN 2002045139 MEDLINE

L194 ANSWER 9 OF 14 EMBASE COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on STN DUPLICATE 6
TI Evaluation of methods for determination of a reconstructed history of gene sequence evolution.
SO Molecular Biology and Evolution, (2001) Vol. 18, No. 11, pp. 2040-2047. Refs: 31
ISSN: 0737-4038 CODEN: MBEVEO
AU Liberles, D.A. (correspondence)
CS Department of Biochemistry, Stockholm Bioinformatics Center, Stockholm University, 106 91 Stockholm, Sweden. liberles@sbc.su.se
AN 2001387705 EMBASE

L194 ANSWER 10 OF 14 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on STN
TI Serum values of proinflammatory cytokines are inversely correlated with serum leptin levels in patients with advanced stage cancer at different sites
SO JOURNAL OF MOLECULAR MEDICINE-JMM, (JUL 2001) Vol. 79, No. 7, pp. 406-414. ISSN: 0946-2716.
AU Mantovani G (Reprint); Maccio A; Madeddu C; Mura L; Massa E; Mudu M C; Mulas C; Lusso M R; Gramignano G; Piras M B
AN 2001:626038 SCISEARCH

L194 ANSWER 11 OF 14 MEDLINE on STN DUPLICATE 7
TI Selective interaction between leptin and insulin signaling pathways in a hepatic cell line.
SO Proceedings of the National Academy of Sciences of the United States of America, (2000 Feb 29) Vol. 97, No. 5, pp. 2355-60.
Journal code: 7505876. ISSN: 0027-8424.
AU Szanto I; Kahn C R
AN 2000160956 MEDLINE

L194 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
TI Lipoapoptosis in beta-cells of obese prediabetic fa/fa rats. Role of serine palmitoyltransferase overexpression
SO Journal of Biological Chemistry (1998), 273(49), 32487-32490
CODEN: JBCHA3; ISSN: 0021-9258
AU Shimabukuro, Michio; Higa, Moritake; Zhou, Yan-Ting; Wang, May-Yun; Newgard, Christopher B.; Unger, Roger H.
AN 1998:797445 HCAPLUS
DN 130:151958

L194 ANSWER 13 OF 14 MEDLINE on STN DUPLICATE 8
TI Ligand-independent dimerization of the extracellular domain of the leptin receptor and determination of the stoichiometry of leptin binding.
SO The Journal of biological chemistry, (1997 Jul 18) Vol. 272, No. 29, pp. 18304-10.
Journal code: 2985121R. ISSN: 0021-9258.
AU Devos R; Guisez Y; Van der Heyden J; White D W; Kalai M; Fountoulakis M; Plaetinck G
AN 97364760 MEDLINE

L194 ANSWER 14 OF 14 MEDLINE on STN DUPLICATE 9
TI A constitutively active version of the Ser/Thr kinase Akt induces production of the ob gene product, leptin, in 3T3-L1

adipocytes.
SO Endocrinology, (1997 Aug) Vol. 138, No. 8, pp. 3559-62.
Journal code: 0375040. ISSN: 0013-7227.
AU Barthel A; Kohn A D; Luo Y; Roth R A
AN 97375495 MEDLINE

=> d ab 12

L194 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
AB We reported that the lipoapoptosis of beta-cells observed in fat-laden islets of obese fa/fa Zucker Diabetic Fatty (ZDF) rats results from overprodn. of ceramide, an initiator of the apoptotic cascade and is induced by long-chain fatty acids (FA). Whereas the ceramide of cytokine-induced apoptosis may be derived from sphingomyelin hydrolysis, FA-induced ceramide overprodn. seems to be derived from FA. We therefore semiquantified mRNA of serine palmitoyltransferase (SPT), which catalyzes the first step in ceramide synthesis. It was 2-3-fold higher in fa/fa islets than in +/+ controls. [3H]Ceramide formation from [3H]serine was 2.2-4.5-fold higher in fa/fa islets. Triacsin-C, which blocks palmitoyl-CoA synthesis, and L-cycloserine, which blocks SPT activity, completely blocked [3H]ceramide formation from [3H]serine. Islets of fa/fa rats are unresponsive to the lipopenic action of leptin, which normally depletes fat and prevents FA up-regulation of SPT. To determine the role of leptin unresponsiveness in the SPT overexpression, we transferred wild type OB-Rb cDNA to their islets; now leptin completely blocked the exaggerated FA-induced increase of SPT mRNA while reducing the fat content. Beta-cell lipoapoptosis was partially prevented in vivo by treating prediabetic ZDF rats with L-cycloserine for 2 wk. Ceramide content and DNA fragmentation both declined 40-50%. We conclude that lipoapoptosis of ZDF rats is mediated by enhanced ceramide synthesis from FA and that blockade by SPT inhibitors prevents lipoapoptosis.

=> log y

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